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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,206	07/20/2001	Michael Beuten	10191/1873	2708

26646 7590 04/21/2004

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EXAMINER	
RAMPURIA, SATISH	
ART UNIT	**PAPER NUMBER**
2124	6

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/910,206	BEUTEN ET AL.	
	Examiner	Art Unit	
	Satish S. Rampuria	2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/20/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed on 07/20/2001.

2. Claims 1-14 are pending.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copies have been received on January 17, 2002.

Information Disclosure Statement

4. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 05, is attached to the instant Office action.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the detailed actions as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). The drawings as filed, contain several figures including boxes that are not labeled, thus lacking the detail essential for proper understanding of the disclosed invention. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112, second paragraph

6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Clarification and/or correction are required.

Regarding, claim 5, on line 25, the limitation, "a type of" is unclear as to what type of fault is stored in the memory.

The rejection of the base claim is necessarily incorporated into the dependent claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-4, 7, 8, 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of US Patent No. 6502209 to Bengtsson et al., hereinafter called Bengtsson.

Per claims 1, 2, 3, 10, 13, and 14:

Admitted prior art discloses:

- A method for monitoring an execution of a program that is executable on at least one microprocessor of a micro controller using a debug logic of the micro controller (Applicant's specification, page 2, lines 12-15 "The debug logic is used during the development of the

program that is executable on the at least one microprocessor of the micro controller and is used for improvement of the visibility of the processes running in the micro controller")

- causing the debug logic to trigger an exception upon access to a specific address range during a program execution time (Applicant's specification, page 3, lines 1-2 "The debug logic can, as a rule, trigger an exception, e.g., an interrupt" and Applicant's specification, page 2, line 18 "The debug logic can learn from the address bus which selected address range was accessed")

- causing the debug logic to execute an exception routine after the exception is triggered during the program execution time (Applicant's specification, page 3, lines 23-25 "When access to one of these addresses is attempted, an exception is triggered and an exception routine is executed")

Admitted prior art does not explicitly disclose causing the at least one microprocessor to configure the debug logic.

However, Bengtsson discloses in an analogous computer system the debug chip is configured in DUT (device under test) (col. 4, lines 37-38 "debug chip 110C configured in DUT").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of configuring the microprocessor or DUT to debug logic as taught by Bengtsson in to the method of monitoring the program as taught in admitted prior art. The modification would be obvious because of one of ordinary skill in the art would be motivated configure the prior art microprocessor with debug logic to eliminate the

excessive costs of the producing a special version chip for debugging purposes as suggested by Bengtsson (col. 2, lines 24-30).

Per claim 4:

The rejection of claim 1 is incorporated, and further, admitted prior art does not explicitly disclose resetting the micro controller, starting up the micro controller again, and initializing the program.

However, Bengtsson discloses in an analogous computer system the power-on-reset unit coupled to the debug bus (col. 4, lines 21-24 "debug bus 140 is coupled to all chips... power-on-reset interrupts... other asynchronous events"). It is obvious to use the power-on-reset to reset microconroller and/or initialize the program.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the power-on-reset as taught by Bengtsson in to the method of monitoring the program as taught in admitted prior art. The modification would be obvious because of one of ordinary skill in the art would be motivated reset the microcontroller or DUT to make the new changes in effect.

Per claim 7 and 8:

The rejection of claim 1 is incorporated, and further, admitted prior art discloses:

- ***the debug logic monitors whether the program accesses a preselectable address range of a memory during the program execution time*** (Applicant's specification, page 2, lines 18-21 "The debug logic can learn from the address bus which selected address range was accessed, from the

data bus, which data is to be written into the selected address range or was read out of the selected address range, and, from the control bus, whether a write or read access is to be performed on the selected address range")

Per claim 11:

The rejection of claim 10 is incorporated, and further, admitted prior art discloses:

- the control element corresponds to one of a read-only memory and a flash memory

(Applicant's specification, page 2, lines 3-4 "internal control elements (e.g., a read-only memory or a flash memory), and/or further components")

Per claim 12:

The rejection of claim 10 is incorporated, and further, admitted prior art discloses:

- the micro controller is arranged in a motor vehicle (Applicant's specification, page 2, lines 4-5 "This type of micro controller is, for example, part of a controller for a motor vehicle")

9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art, Bengtsson in view of US Patent No. 6,697,972 to Oshima et al., hereinafter called Oshima.

Per claims 5 and 6:

Neither admitted prior art nor Bengtsson discloses storing a fault in the memory and storing memory address.

However, Oshima discloses in an analogous computer system storing a fault in the memory and storing memory address (col. 5, lines 1-6 "OS fault detection time 13 and an OS fault recovery method 14 are stored with regard to a monitored subject ID 18 (address), and AP monitor fault detection time 15 and an AP monitor fault recovery method 16 are stored with regard to a monitored subject ID 20").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate storing a fault in the memory and storing memory address as taught by Oshima in corresponding to the combination system for monitoring the program as taught by admitted prior art and Bengtsson. The modification would be obvious because of one of ordinary skill in the art would be motivated to store fault type and memory address in the memory to start monitoring debugging where it left off as suggested by Oshima (col. 1, lines 40-46).

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art, Bengtsson in view of US Patent No. 6,535,811 to Rowland et al., hereinafter called Rowland.

Per claim 9:

Neither admitted prior art nor Bengtsson discloses a code sequence of the program, swapped out from a flash memory of the micro controller into a random access memory of the micro controller, in the flash memory.

However, Rowland discloses in an analogous computer system a code sequence of the program, swapped out from a flash memory of the micro controller into a random access memory of the micro controller, in the flash memory (col. 5, lines 23-25 "memory holding the executable code, typically some type of ROM, had to be swapped with a memory having the new executable code "burned in."" and col. 5, lines 27-29 "flash memory 22 comprises a flash EPROM. Thus, executable code for the microcontroller can be rewritten as necessary").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of swapping the code between memories as taught by Rowland into the method of monitoring the program as taught by the combination system of admitted prior art and Bengtsson. The modification would be obvious because of one of ordinary skill in the art would be motivated to swap the code between flash and RAM memories to read write the data control relationship during engine operation as suggested by (col. 2, lines 5-9).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to further show the state of the art with respect to monitoring the execution of a program.

US Patent No. 6,282,701 to Wygodny et al.

US Patent No. 5,680,620 to Ross

US Patent No. 5,657,442 to Groves

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satish S. Rampuria whose telephone number is 703-305-8891. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria

Patent Examiner

Art Unit 2124

04/19/2004

TODD INGBERG
PRIMARY EXAMINER